

PATENT CLAIMS:

1 – 12 (canceled)

13. (new) A turbine component, comprising:
a masking layer arranged on a portion of the component;
a plurality of material layers arranged on the component that chemically react with the masking layer; and
a water-soluble layer formed by the reaction.
14. (new) The turbine component as claimed in claim 13, wherein the turbine component is a blade or vane.
15. (new) The turbine component as claimed in claim 13, wherein the material layers are a ceramic thermal barrier coating.
16. (new) The turbine component as claimed in claim 15, wherein the thermal barrier coating comprises a bond coat.
17. (new) The turbine component as claimed in claim 13, wherein the masking layer comprises carbon arranged on the outer surface of the masking layer.
18. (new) The turbine component as claimed in claim 17, wherein the reaction additionally provides a ceramic layer.
19. (new) The turbine component as claimed in claim 13, wherein the masking layer comprises three sub-layers,
a first sub-layer is arranged on a base material of the component and provides bonding to the base material of the component,
a second gradient sub-layer arranged on the first sub-layer, and
a third reactive sub-layer arranged on the gradient layer and adapted to react with the layers of material applied to the component.

20. (new) The turbine component as claimed in claim 19, wherein the first sub-layer comprises carbosilane.

21. (new) The turbine component as claimed in claim 19, wherein the gradient layer comprises polysiloxane, a metal, or a metal-ceramic composite.

22. (new) The turbine component as claimed in claim 19, wherein the gradient layer comprises polysiloxane, the metal, and a metal-ceramic composite.

23. (new) The turbine component as claimed in claim 19, wherein a filler material is added to the gradient sub-layer to inhibit thermo-mechanical stresses in the masking layer.

24. (new) The turbine component as claimed in claim 23, wherein a filler material is added to the gradient sub-layer to prevent thermo-mechanical stresses in the masking layer.

25. (new) The turbine component as claimed in claim 19, wherein a filler material is added to the gradient sub-layer to inhibit thermo-mechanical stresses between the masking layer and a substrate of the component.

26. (new) The component as claimed in claim 13, wherein the masking layer is a gradient layer.

27. (new) A turbine blade or vane, comprising:
a substrate;
a masking layer applied to the substrate; and
a thermal barrier coating layer applied to the masking layer, wherein
a portion of the thermal barrier coating layer and a portion of the masking layer chemically react to form a water soluble layer.

28. (new) The turbine blade or vane as claimed in claim 27, wherein the masking layer is comprised of a first sub-layer applied to the substrate, a gradient sub-layer applied to the first sub-layer, and a third reactive sub-layer applied to the gradient sub-layer.

29. (new) The turbine component as claimed in claim 28, wherein the third sub-layer reacts with the thermal barrier coating layer to form the water soluble layer.

30. (new) The turbine component as claimed in claim 28, wherein the first sub-layer comprises carbosilane.

31. (new) The turbine component as claimed in claim 28, wherein the gradient layer comprises polysiloxane, a metal, and a metal-ceramic composite.

32. (new) The turbine component as claimed in claim 28, wherein the masking layer is applied to a portion of the substrate.